

## Chapter NR 109

## SAFE DRINKING WATER

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**NR 109.01 Purpose.** The purpose of this chapter is to establish minimum standards and methods for the protection of the public health, safety and welfare in the obtaining of safe drinking water. This chapter is adopted pursuant to the authority granted in chapters 144 and 162, Wisconsin Statutes.

**Note:** See NR 108, 111, 112 and 114 for other requirements pertaining to public and private drinking water systems.

**History:** Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.02 Severability.** Should any section, paragraph, phrase, sentence, clause or word of this chapter be declared invalid or unconstitutional for any reason, the remainder of this chapter shall not be affected thereby.

**History:** Cr. Register, February, 1978, No. 266, eff. 3-1-78.

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**NR 109.03 Applicability.** The provisions of this chapter shall apply to all new and existing public water systems as defined in this chapter.

**History:** Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.04 Definitions.** (1) "Community water system" means a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

(2) "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

(3) "Dose equivalent" means the product of the absorbed dose for ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the international commission on radiological units and measurements (ICRU).

(4) "Department" means the department of natural resources.

(5) "Gross alpha particle activity" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample.

(6) "Gross beta particle activity" means the total radioactivity due to beta particle emission as inferred from measurements on a dry sample.

(7) "Man-made beta particle and photon emitters" means all radionuclides emitting beta particles and/or photons listed in Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure, NBS Handbook 69, except the daughter products of thorium-232, uranium-235 and uranium-238.

(8) "Maximum contaminant level" means the maximum permissible level of a contaminant in water which is delivered to the consumer service outlet of the ultimate user of a public water system, except in the case of turbidity where the maximum permissible level is measured at the point of entry to the distribution system. Contaminants added to the water under circumstances controlled by the user, except those resulting from corrosion of piping and plumbing caused by water quality, are excluded from this definition.

(9) "Non-community water system" means a public water system that is not a community water system.

(10) "Person" means an individual, corporation, company, association, cooperative, trust, institution, partnership, state, municipality, or federal agency.

(11) "Picocurie (pCi)" means that quantity of radioactive material producing 2.22 nuclear transformations per minute.

(12) "Primary drinking water standards" means those standards which represent minimum public health standards.

(13) "Public water system" means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. A public water system

is either a "community water system" or a "non-community water system". Such system includes:

(a) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and

(b) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.

(14) "Rem" means the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system. A "millirem" (mrem) is 1/1000 of a rem.

(15) "Sanitary survey" means an onsite inspection of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water.

(16) "Secondary drinking water standards" means those standards for aesthetic parameters which represent minimum public welfare concerns but do not represent health standards.

(17) "Supplier of water" means any person who owns or operates a public water system.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.05 Coverage.** This chapter shall apply to each public water system, unless the public water system meets all of the following conditions:

(1) Consists only of distribution and storage facilities (and does not have any collection and treatment facilities); and

(2) Obtains all of its water from, but is not owned or operated by, a public water system to which such regulations apply; and

(3) Does not sell water to any person; and

(4) Is not a carrier which conveys passengers in interstate commerce.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

#### **Part I - Primary Contaminant Standards, Monitoring and Analytical Requirements**

**NR 109.11 Maximum contaminant levels for inorganic chemicals.** (1) The maximum contaminant level for nitrate is applicable to both community water systems and non-community water systems. The levels for the other inorganic chemicals apply only to community water systems. Compliance with maximum contaminant levels for inorganic chemicals is calculated pursuant to NR 109.12.

(2) The following are the maximum contaminant levels for inorganic chemicals:

Contaminant	Level, milligrams per liter (micrograms per liter in parentheses)
Arsenic.....	0.05 (50 ug/1)
Barium.....	1. (1000 ug/1)
Cadmium.....	0.010 (10 ug/1)
Chromium.....	0.05 (50 ug/1)
Fluoride.....	2.2
Lead.....	0.05 (50 ug/1)
Mercury.....	0.002 (2 ug/1)
Nitrate (as N).....	10.
Selenium.....	0.01 (10 ug/1)
Silver.....	0.05 (50 ug/1)
Sodium.....	No limit designated'

'The supplier of water should periodically notify local physicians of the sodium content of the water supply in order that the physicians may advise their patients of suitable dietary restrictions.

**History:** Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.12 Inorganic chemical sampling and analytical requirements.** (1) Analyses for the purpose of determining compliance with NR 109.11 are required as follows:

(a) Analyses for all community water systems utilizing surface water sources shall be completed by June 24, 1978. These analyses shall be repeated at yearly intervals.

(b) Analyses for all community water systems utilizing only ground water sources shall be completed by June 24, 1979. These analyses shall be repeated at three-year intervals.

(c) For non-community water systems whether supplied by surface or ground water sources, analysis for nitrate shall be completed by June 24, 1979. These analyses shall be repeated at intervals determined by the department.

(2) If the result of an analysis made pursuant to subsection (1) indicates that the level of any contaminant listed in NR 109.11 exceeds the maximum contaminant level, the supplier of water shall report to the department within 7 days and initiate 3 additional analyses at the same sampling point within one month.

(3) When the average of 4 analyses made pursuant to subsection (2) of this section, rounded to the same number of significant figures as the maximum contaminant level for the substance in question, exceeds the maximum contaminant level, the supplier of water shall notify the department pursuant to NR 109.80 and give notice to the public pursuant

to NR 109.81. Monitoring after the maximum contaminant level is exceeded shall be at a frequency designated by the department and shall continue until the maximum contaminant level has not been exceeded in 2 successive samples or until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

(4) The provisions of subsections (2) and (3) of this section notwithstanding, compliance with the maximum contaminant level for nitrate shall be determined on the basis of the mean of 2 analyses. When a level exceeding the maximum contaminant level for nitrate is found, a second analysis shall be initiated within 24 hours, and if the mean of the 2 analyses exceeds the maximum contaminant level the supplier of water shall report findings to the department pursuant to NR 109.80 and shall notify the public pursuant to NR 109.81.

(5) For the initial analyses required by subsection (1) (a), (b) or (c) of this section, data for surface waters acquired within one year prior to the effective date and data for ground waters acquired within 3 years prior to the effective date of this part may be substituted at the discretion of the department.

(6) Analyses conducted to determine compliance with NR 109.11 shall be made in accordance with methods approved by the U.S. environmental protection agency. The department shall maintain a current list of approved methods.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.20 Maximum contaminant levels for organic chemicals.** The following are the maximum contaminant levels for organic chemicals. They apply only to community water systems. Compliance with maximum contaminant levels for organic chemicals is calculated pursuant to NR 109.21.

	Level, milligrams per liter
(1) Chlorinated hydrocarbons:	
Endrin (1,2,3,4,10, 10-hexachloro- 6,7-epoxy- 1,4, 4a,5,6,7,8,8a-octahydro-1,4-endo, endo-5,8 - dimethano naphthalene).	0.0002
Lindane (1,2,3,4,5,6-hexachloro-cyclohexane, gamma isomer).	0.004
Methoxychlor (1,1,1-Trichloro- 2, 2 - bis (p- methoxyphenyl) ethane).	0.1
Toxaphene (C <sub>12</sub> H <sub>8</sub> Cl <sub>6</sub> -Technical chlorinated camphene, 67-69 percent chlorine).	0.005
(2) Chlorophenoxy:	
2,4 - D (2,4-Dichlorophenoxyacetic acid).	0.1
2,4,5 - TP Silvex (2,4,5-Trichlorophenoxypro- pionic acid).	0.01

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.21 Organic chemical sampling and analytical requirements.** (1) An analysis of substances for the purpose of determining compliance with NR 109.20 shall be made as follows:

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(a) For all community water systems utilizing surface water sources, analyses shall be completed by June 24, 1978. Samples analyzed shall be collected during the period of the year designated by the department as the period when contamination by pesticides is most likely to occur. These analyses shall be repeated at intervals specified by the department but in no event less frequently than at 3 year intervals.

(b) For community water systems utilizing only ground water sources, analyses shall be completed for those systems specified by the department.

(2) If the result of an analysis made pursuant to subsection (1) of this section indicates that the level of any contaminant listed in NR 109.20 exceeds the maximum contaminant level the supplier of water shall report to the department within 7 days and initiate 3 additional analyses within one month.

(3) When the average of 4 analyses made pursuant to subsection (2) of this section, rounded to the same number of significant figures as the maximum contaminant level for the substance in question, exceeds the maximum contaminant level, the supplier of water shall report to the department pursuant to NR 109.80 and give notice to the public pursuant to NR 109.81. Monitoring after public notification shall be at a frequency designated by the department and shall continue until the maximum contaminant level has not been exceeded in 2 successive samples or until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

(4) For the initial analysis required by subsection (1) (a) and (b) of this section, data for surface water acquired after June 24, 1976 and data for ground water acquired after June 24, 1974 may be substituted at the discretion of the department.

(5) Analyses made to determine compliance with NR 109.20 (1) shall be made in accordance with "Method for Organochlorine Pesticides in Industrial Effluents," MDQARL, Environmental Protection Agency, Cincinnati, Ohio, November 28, 1973. Copies of this document are available for inspection at the office of the department of natural resources, the secretary of state's office and the office of the revisor of statutes, and may be obtained for personal use from the U.S. Environmental Protection Agency, Washington, D.C. 20460.

(6) Analyses made to determine compliance with NR 109.20 (2) shall be conducted in accordance with "Methods for Chlorinated Phenoxy Acid Herbicides in Industrial Effluents" MDQARL, Environmental Protection Agency, Cincinnati, Ohio, November 28, 1973. Copies of this document are available for inspection at the office of the department of natural resources, the secretary of state's office and the office of the revisor of statutes, and may be obtained for personal use from the U.S. Environmental Protection Agency, Washington, D.C. 20460.

(7) Other analytical methods, if any, approved by the U.S. environmental protection agency are acceptable. The department shall maintain a list of approved methods.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.  
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**NR 109.30 Maximum microbiological contaminant levels.** The following are the maximum contaminant levels for coliform bacteria applicable to community water systems and non-community water systems. Compliance with maximum contaminant levels for coliform bacteria is determined pursuant to NR 109.31 (4) (b) for purposes of public notification requirements pursuant to NR 109.81. The public notification provisions of NR 109.81 shall not apply to subsection (3) or (4).

(1) When the membrane filter technique pursuant to NR 109.31 (1) is used, the number of coliform bacteria shall be less than one per 100 milliliters in any sample collected and analyzed pursuant to NR 109.31 (2) or (3).

(2) When the fermentation tube method and 10 milliliter standard portions pursuant to NR 109.31 (1) are used, coliform bacteria shall not be present in any portions in any sample collected and analyzed pursuant to NR 109.31 (2) or (3).

(3) The supplier of water shall initiate definitive action to identify the cause of the positive bacteriological sample results and to eliminate potential health hazards which might exist in the system when monitoring pursuant to subsections NR 109.31 (2), (3) or (4) shows the presence of any coliform organisms in any of the following:

(a) More than 10% of the samples in any quarter when more than 20 samples are required per quarter; or

(b) Two or more samples in any quarter when 6 to 20 samples are required per quarter; or

(c) Two or more in any year when less than 24 samples are required per year.

(4) Bacterial plate counts on water distributed to the consumer shall not exceed 500 organisms per (1) milliliter. When this value is exceeded the department shall determine if the bacterial count is of public health or nuisance significance and may require appropriate action.

*History:* Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.31 Microbiological contaminant sampling and analytical requirements.** (1) Suppliers of water for community water systems and non-community water systems shall analyze for coliform bacteria for the purpose of determining compliance with NR 109.30. Analyses shall be conducted in accordance with the analytical recommendations set forth in "Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 14th Edition, pp. 913-937, except that a standard sample size shall be employed. Copies of this publication are available for inspection at the office of the department of natural resources, the secretary of state's office and the office of the revisor of statutes, and may be obtained for personal use from the American Public Health Association, 1015 Eighteenth St., N.W., Washington, D.C. The standard sample used in the membrane filter procedure shall be 100 milliliters. The standard sample used in the 5 tube most probable number (MPN) procedure (fermentation tube method) shall be 5 times the standard portion. The standard portion is 10 milliliters as described in NR 109.30 (2). The samples shall be taken at points which are representative of the conditions within the distribution system.

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(2) (a) The supplier of water for a community water system shall take water samples for coliform determination at regular time intervals, and in number proportionate to the population served by the system. In no event shall the frequency be less than as set forth in the following:

Population served:	Minimum number of samples per month
25 to 1,000 (Not serving a municipality) .....	1
25 to 1,000 (Serving a municipality) .....	2
1,001 to 2,500.....	2
2,501 to 3,300.....	3
3,301 to 4,100.....	4
4,101 to 4,900.....	5
4,901 to 5,800.....	6
5,801 to 6,700.....	7
6,701 to 7,600.....	8
7,601 to 8,500.....	9
8,501 to 9,400.....	10
9,401 to 10,300.....	11
10,301 to 11,100.....	12
11,101 to 12,000.....	13
12,001 to 12,900.....	14
12,901 to 13,700.....	15
13,701 to 14,600.....	16
14,601 to 15,500.....	17
15,501 to 16,300.....	18
16,301 to 17,200.....	19
17,201 to 18,100.....	20
18,101 to 18,900.....	21
18,901 to 19,800.....	22
19,801 to 20,700.....	23
20,701 to 21,500.....	24
21,501 to 22,300.....	25
22,301 to 23,200.....	26
23,201 to 24,000.....	27
24,001 to 24,900.....	28
24,901 to 25,000.....	29
25,001 to 28,000.....	30
28,001 to 33,000.....	35
33,001 to 37,000.....	40
37,001 to 41,000.....	45
41,001 to 46,000.....	50
46,001 to 50,000.....	55
50,001 to 54,000.....	60
54,001 to 59,000.....	65
59,001 to 64,000.....	70
64,001 to 70,000.....	75
70,001 to 76,000.....	80
76,001 to 83,000.....	85
83,001 to 90,000.....	90
90,001 to 96,000.....	95
96,001 to 111,000.....	100
111,001 to 130,000.....	110
130,001 to 160,000.....	120
160,001 to 190,000.....	130
190,001 to 220,000.....	140

220,001 to 250,000.....	150
250,001 to 290,000.....	160
290,001 to 320,000.....	170
320,001 to 360,000.....	180
360,001 to 410,000.....	190
410,001 to 450,000.....	200
450,001 to 500,000.....	210
500,001 to 550,000.....	220
550,001 to 600,000.....	230
600,001 to 660,000.....	240
660,001 to 720,000.....	250
720,001 to 780,000.....	260
780,001 to 840,000.....	270
840,001 to 910,000.....	280
910,001 to 970,000.....	290
970,001 to 1,050,000.....	300
1,050,001 to 1,140,000.....	310
1,140,001 to 1,230,000.....	320
1,230,001 to 1,320,000.....	330
1,320,001 to 1,420,000.....	340
1,420,001 to 1,520,000.....	350
1,520,001 to 1,630,000.....	360
1,630,001 to 1,730,000.....	370
1,730,001 to 1,850,000.....	380
1,850,001 to 1,970,000.....	390
1,970,001 to 2,060,000.....	400

(b) Based on a history of no coliform bacterial contamination and on a sanitary survey by the department showing the water system to be supplied solely by a protected ground water source and free of sanitary defects, non-municipal community water system serving 25 to 1,000 persons, with written permission from the department, may reduce this sampling frequency except that in no case shall it be reduced to less than one per quarter.

(3) The supplier of water for a non-community water system shall sample for coliform bacteria in each calendar quarter during which the system provides water to the public. Such sampling shall begin by June 24, 1979. If the department, on the basis of a sanitary survey, determines that some other frequency is more appropriate, that frequency shall be the frequency required under these regulations. Such frequency shall be confirmed or changed on the basis of subsequent surveys.

(4) (a) When a sample collected pursuant to subsection (2) or (3) of this section exceeds a maximum contaminant level set forth in NR 109.30 (1) or (2), the supplier of water shall collect a repeat sample which shall be considered the check sample from the same sampling point within 48 hours.

(b) When the examination of the check sample required in NR 109.31 (4) (a) shows the presence of coliform organisms, the supplier of water shall:

1. Report to the department within 48 hours; and
2. Initiate an investigation, including the collection within 48 hours and examination of additional check samples from the same point and

other sampling points in the area, to define the extent of the problem; and

3. Notify the public in the area affected by the indicated contamination as prescribed in NR 109.81 unless the department determines that no health hazard has actually existed.

(c) The department, at its discretion, may require that additional check samples be collected at a specified frequency from the same sampling point and other sampling points in the area and examined to identify and eliminate suspected health hazards when a sample exceeds a maximum contaminant level pursuant to NR 109.30 (1) or (2), even if the check sample required in NR 109.31 (4) (a) does not indicate the presence of coliform bacteria.

(d) When the cause of the indicated contamination has been determined and corrected, additional check samples shall be collected at a frequency directed by the department.

(e) The location at which the check sample was taken pursuant to subsection (4) (a) of this section shall not be eliminated from future sampling without approval of the department.

(5) The department may determine that unreliable examination results for a sample collected in a monitoring period pursuant to NR 109.31 (2) were caused by factors beyond the control of the water supplier. Such factors could be excessive transit time between collection and examination of the sample, samples being broken in transit, or interference in test results when the membrane filter technique is used. If this is the case, another sample collected immediately upon learning of these results may be used in determining compliance with sampling requirements in NR 109.31 (2) or (3). However, a single sample may not be attributed to more than one monitoring period.

(6) Check samples, samples with unreliable examination results, and special purpose samples, such as those taken to determine whether disinfection practices following water main placement, replacement, or repair have been sufficient, shall not be used to determine compliance with NR 109.31 (2) or (3).

(7) In addition to sampling from the distribution system, each supplier of water for a system providing chlorination shall obtain at least one sample every 3 months from each well prior to the point of any chemical addition. For waterworks which have more than one well in the same location and utilizing the same aquifer, only one of the wells needs to be sampled each time on an alternating basis. If a well has a high potential for contamination, the department may in individual cases require more frequent sampling.

(8) At surface water facilities, the bacteriological quality of the water shall be monitored often enough to maintain quality control of the treatment process. Each plant shall establish a schedule which will be subject to review and modification by the department.

**Note:** Generally, membrane filter or 5 tube fermentation tests and plate counts of the raw, settled and finished water on an established schedule will be necessary to meet this requirement.

(9) At all waterworks which have a potential for high total bacteria levels because of the water quality, the method of treatment, chemical

addition or other cause, the department may require plate counts pursuant to an established schedule. Analyses shall be conducted in accordance with the analytical recommendations set forth in "Standard Methods for the Examination of Water and Wastewater", American Public Health Association, 14th Edition, pp. 908-913. Copies of this publication are available for inspection at the office of the department of natural resources, the secretary of state's office and the office of the revisor of statutes, and may be obtained for personal use from the American Public Health Association, 1015 Eighteenth St., N.W., Washington, D.C.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.40 Maximum contaminant levels for turbidity.** The maximum contaminant levels for turbidity are applicable to both community water systems and non-community water systems using surface water sources in whole or in part.

(Note: Water systems governed by chapter NR 112 may not utilize surface water sources.)

The maximum contaminant levels for turbidity in drinking water, measured at a representative entry point(s) to the distribution system, are:

(1) One nephelometric turbidity unit (NTU), as determined by a monthly average pursuant to NR 109.41, except that 5 or fewer turbidity units may be allowed if the supplier of water can demonstrate to the state that the higher turbidity does not do any of the following:

- (a) Interfere with disinfection;
- (b) Prevent maintenance of an effective disinfectant agent throughout the distribution system; or
- (c) Interfere with microbiological determinations.

(2) Five nephelometric turbidity units (NTU) based on an average for 2 consecutive days pursuant to NR 109.41.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.41 Turbidity sampling and analytical requirements.** (1) The requirements of this section shall apply only to public water systems which use water in whole or in part from surface water sources.

(2) Samples shall be taken by suppliers of water for both community water systems and non-community water systems at a representative entry point(s) to the water distribution system at least once per day, for the purpose of making turbidity measurements to determine compliance with NR 109.40. The measurement shall be made by the Nephelometric Method in accordance with the recommendations set forth in "Standard Methods for the Examination of Water and Wastewater", American Public Health Association, 14th Edition, pp. 132-134, or "Methods for Chemical Analysis of Water and Wastes", pp. 295-298, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974. Copies of these publications are available for inspection at the office of the department of natural resources, the secretary of state's office and the office of the revisor of statutes, and may be obtained for personal use from, respectively, the American Public Health Association, 1015 Eighteenth St., N.W., Washington, D.C. and the U.S. Environmental Protection Agency, Washington, D.C. 20460.

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(3) If the result of a turbidity analysis indicates that the maximum allowable limit has been exceeded, the sampling and measurement shall be confirmed by resampling as soon as practicable and preferably within one hour. If the repeat sample confirms that the maximum allowable limit has been exceeded, the supplier of water shall report to the department within 48 hours. The repeat sample shall be the sample used for the purpose of calculating the monthly average. If the monthly average of the daily samples exceeds the maximum allowable limit, or if the average of two samples taken on consecutive days exceeds 5 NTU, the supplier of water shall report to the department and notify the public as directed in NR 109.80 and NR 109.81.

(4) Sampling for non-community water systems shall begin by June 24, 1979.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.50 Maximum contaminant levels for radium-226, radium-228, and gross alpha particle radioactivity in community water systems.** The following are the maximum contaminant levels for radium-226, radium-228, and gross alpha particle radioactivity:

(1) Combined radium-226 and radium-228 — 5 pCi/l.

(2) Gross alpha particle activity (including radium-226 but excluding radon and uranium) — 15 pCi/l.

Note: Sections NR 109.50 through NR 109.52 are identical to the radioactivity standards of the Department of Health and Social Services in chapter H 57, Wis. Adm. Code, and to the National Interim Primary Drinking Water Regulations, 40 Code of Federal Regulations 141. These sections are adopted pursuant to subsection 140.56(2), Stats.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.51 Maximum contaminant levels for beta particle and photon radioactivity from man-made radionuclides in community water systems.** (1) The average annual concentration of beta particle and photon radioactivity from man-made radionuclides in drinking water shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem/year.

(2) Except for the radionuclides listed in Table A, the concentration of man-made radionuclides causing 4 mrem total body or organ dose equivalents shall be calculated on the basis of a 2 liter per day drinking water intake using the 168 hour data listed in "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air or Water for Occupational Exposure", NBS Handbook 69 as amended August, 1963, U.S. Department of Commerce. Copies of this document are available for inspection at the office of the department of natural resources, the secretary of state's office and the office of the revisor of statutes, and may be obtained for personal use from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. If 2 or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ shall not exceed 4 millirem/year.

Table A. - Average annual concentrations assumed to produce a total body or organ dose of 4 mrem/yr.

Radionuclide	Critical Organ	pCi per liter
Tritium	Total body	20,000
Strontium-90	Bone marrow	8

Note: Sections NR 109.50 through NR 109.52 are identical to the radioactivity standards of the Department of Health and Social Services in chapter H 57, Wis. Adm. Code, and to the National Interim Primary Drinking Water Regulations, 40 Code of Federal Regulations 141. These sections are adopted pursuant to subsection 140.56(2), Stats.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.52 Analytical methods for radioactivity.** (1) Analyses conducted to determine compliance with NR 109.50 and NR 109.51 shall be made in accordance with approved methods outlined in 40 Code of Federal Regulations (CFR) 141.25 or other methods approved by the U.S. environmental protection agency. Copies of this document are available for inspection at the office of the department of natural resources, the secretary of state's office and the office of the revisor of statutes, and may be obtained for personal use from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

(2) The department shall maintain a current list of approved analytical methods.

Note: Sections NR 109.50 through NR 109.52 are identical to the radioactivity standards of the Department of Health and Social Services in chapter H 57, Wis. Adm. Code, and to the National Interim Primary Drinking Water Regulations, 40 Code of Federal Regulations 141. These sections are adopted pursuant to subsection 140.56(2), Stats.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.53 Monitoring frequency for radioactivity in community water systems.** (1) MONITORING REQUIREMENTS FOR GROSS ALPHA PARTICLE ACTIVITY, RADIUM-226 AND RADIUM-228. (a) Initial sampling to determine compliance with NR 109.50 shall begin by June 24, 1979 and the analysis shall be completed by June 24, 1980. Compliance shall be based on the analysis of an annual composite of 4 consecutive quarterly samples or the average of the analyses of 4 samples obtained at quarterly intervals.

1. A gross alpha particle activity measurement may be substituted for the required radium-226 and radium-228 analysis, provided that the measured gross alpha particle activity does not exceed  $5\text{ pCi}/1$  at a confidence level of 95% ( $1.65\sigma$  where  $\sigma$  is the standard deviation of the net counting rate of the sample). In localities where radium-228 may be present in drinking water, the department may require radium-226 and/or radium-228 analyses when the gross alpha particle activity exceeds  $2\text{ pCi}/1$ .

2. When the gross alpha particle activity exceeds  $5\text{ pCi}/1$ , the same or an equivalent sample shall be analyzed for radium-226. If the concentration of radium-226 exceeds  $3\text{ pCi}/1$  the same or an equivalent sample shall be analyzed for radium-228.

a. For the initial analysis required by subsection (1) (a), data acquired after June 24, 1976 may be substituted at the discretion of the department.

b. Suppliers of water shall monitor at least once every 4 years following the procedure required by subsection (1) (a). At the discretion of the department, when an annual record taken in conformance with subsection (1) (a) has established that the average annual concentration is less than half the maximum contaminant levels established by NR 109.50, analysis of a single sample may be substituted for the quarterly sampling procedure required by subsection (1) (a).

1) More frequent monitoring shall be conducted when ordered by the department in the vicinity of mining or other operation which may contribute alpha particle radioactivity to either surface or ground water sources of drinking water.

2) A supplier of water shall monitor in conformance with subsection (1) (a) within one year of the introduction of new water source for a community water system. More frequent monitoring shall be conducted when ordered by the department in the event of possible contamination or when changes in the distribution system or treatment processing occur which may increase the concentration of radioactivity in finished water.

3) A community water system using 2 or more sources having different concentrations of radioactivity shall monitor source water, in addition to water from the consumer service outlet, when required by the department.

4) Monitoring for compliance with NR 109.50 after the initial period need not include radium-228 except when required by the department, provided, that the average annual concentration of radium-228 has been assayed at least once using the quarterly sampling procedure required by subsection (1) (a).

5) Suppliers of water shall conduct annual monitoring of any community water system in which the radium-228 concentration exceeds 3 pCi/l, when required by the department.

c. If the average annual maximum contaminant level for gross alpha particle activity or total radium as set forth in NR 109.50 is exceeded, the supplier of a community water system shall give notice to the department pursuant to NR 109.80 and notify the public as required by NR 109.81. Monitoring at quarterly intervals shall be continued until the annual average concentration no longer exceeds the maximum contaminant level or until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

(2) MONITORING REQUIREMENTS FOR MAN-MADE RADIOACTIVITY IN COMMUNITY WATER SYSTEMS. (a) By June 24, 1979, systems using surface water sources and serving more than 100,000 persons and such other community water systems as are designated by the department shall be monitored for compliance with NR 109.51 by analysis of a composite of 4 consecutive quarterly samples or analysis of 4 quarterly samples. Compliance with NR 109.51 may be assumed without further analysis if the average annual concentration of gross beta particle activity is less than

50 pCi/1 and if the average annual concentrations of tritium and strontium-90 are less than those listed in Table A, provided, that if both radionuclides are present the sum of their annual dose equivalents to bone marrow shall not exceed 4 millirem/year.

1. If the gross beta particle activity exceeds 50 pCi/1, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with NR 109.51.

2. Suppliers of water shall conduct additional monitoring, as required by the department to determine the concentration of man-made radioactivity in principal watersheds designated by the department.

3. At the discretion of the department, suppliers of water utilizing only ground waters may be required to monitor for man-made radioactivity.

(b) For the initial analysis required by subsection (2) (a) data acquired since June 24, 1976 may be substituted at the discretion of the department.

(c) After the initial analysis required by subsection (2) (a) suppliers of water shall monitor at least every 4 years following the procedure given in subsection (2) (a).

(d) By June 24, 1979 the supplier of any community water system designated by the department as utilizing waters subject to contamination by effluents from nuclear facilities shall initiate quarterly monitoring for gross beta particle and iodine-131 radioactivity and annual monitoring for strontium-90 and tritium.

1. Quarterly monitoring for gross beta particle activity shall be based on the analysis of monthly samples or the analysis of a composite of 3 monthly samples. The former is recommended. If the gross beta particle activity in a sample exceeds 15 pCi/1, the same or an equivalent sample shall be analyzed for strontium-89 and cesium-134. If the gross beta particle activity exceeds 50 pCi/1, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with NR 109.51.

2. For iodine-131, a composite of 5 consecutive daily samples shall be analyzed once each quarter. As required by the department, more frequent monitoring shall be conducted when iodine-131 is identified in the finished water.

3. Annual monitoring for strontium-90 and tritium shall be conducted by means of the analysis of a composite of 4 consecutive quarterly samples or analysis of 4 quarterly samples.

4. The department may allow the substitution of environmental surveillance data taken in conjunction with a nuclear facility for direct monitoring of man-made radioactivity by the supplier of water where the department determines such data is applicable to a particular community water system.

(e) If the average annual maximum contaminant level for man-made radioactivity set forth in NR 109.16 is exceeded, the operator of a community water system shall give notice to the department pursuant to NR

109.80 and to the public as required by NR 109.81. Monitoring at monthly intervals shall be continued until the concentration no longer exceeds the maximum contaminant level or until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

### Part II - Secondary Chemical and Physical Standards and Monitoring Requirements

**NR 109.60 Secondary inorganic chemical and physical standards.** (1) Waters containing inorganic chemicals in quantities above the limits contained in this section are not hazardous to health but may be objectionable to an appreciable number of persons.

(2) The following are the secondary standards for inorganic chemicals:

Standard	Milligrams per liter (micrograms per liter in parenthesis) - except as noted
Chloride.....	250
Color.....	15 units
Copper.....	1.0 (1,000 ug/1)
Foaming agents	
MBAS (Methylene-Blue Active Substances) ..	0.5
Hydrogen Sulfide.....	not detectable
Iron.....	0.3
Manganese.....	0.05 (50 ug/1)
Odor.....	3 (Threshold No.)
Sulfate.....	250
Total Residue.....	500
Zinc.....	5 (5,000 ug/1)

(3) The secondary standards contained in this section apply to all public water systems. Compliance with these standards shall be calculated in accordance with NR 109.61.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

### NR 109.61 Sampling and analytical requirements for secondary standards.

(1) If the department receives complaints regarding the aesthetic quality of the water the supplier of water may be required to implement a monitoring program to determine compliance with NR 109.60.

(2) If it is determined by the department that physical and/or chemical substances in excess of those standards contained in NR 109.60 are objectionable to an appreciable number of persons and is detrimental to the public welfare the department may, on its own motion, require remedial action by the supplier of water to insure that the public receives the highest quality water practicably obtainable.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

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**Part III - Miscellaneous Chemical Monitoring Requirements, Raw Surface Water Standards and Approved Laboratories.**

**NR 109.70 Additional requirements for systems which chlorinate or fluoridate water.** (1) **FLUORIDE.** (a) The supplier of water for a community water system artificially fluoridating the water shall establish a monitoring program in order to maintain the fluoride concentration within the range of 1.0 to 1.5 milligrams per liter as recommended by the dental health section of the department of health and social services for optimum dental benefits.

(b) The monitoring program shall include:

1. Submission of the results of fluoride tests of samples from the distribution system taken at least once per day, and
2. One sample per month taken from a representative location in the distribution system and submitted to the state laboratory of hygiene.

**Note:** For waterworks with large distribution systems and multiple sources, more than one fluoride test per day may be necessary to assure proper feed rates. See NR 111.54(6) for testing equipment requirements. Exceptions to the daily fluoride test requirement may be approved by the department if it is demonstrated that the optimum fluoride concentration in sub. (a) above will be maintained by a reduced monitoring program.

(c) The sample submitted to the state laboratory of hygiene shall be a portion of a split sample so that the operator can determine the fluoride concentration with the operator's equipment and compare it to the state laboratory results. The fluoride concentration obtained by the operator shall be noted on the data sheet prior to submission to the state laboratory.

(2) **CHLORINE.** The suppliers of water for all waterworks which chlorinate water shall test chlorine residuals at locations and intervals necessary to control the chlorination process. At ground water supplies, the chlorine residual of a sample from a representative location in the distribution system shall be checked at least twice per week. Waterworks having surface water treatment plants shall determine the chlorine residual in the plant effluent at least every 2 hours and in the distribution system at least daily in representative locations. Where water quality changes rapidly, residuals shall be tested at more frequent intervals as specified by the department and in those individual cases, continuous monitoring equipment may be required if the department determines it is necessary to protect public health.

**Note:** Chlorine residual testing is recommended when bacteriological samples are taken; results should be included on the sample slip.

**History:** Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.71 Raw surface water standards.** (1) The intate water shall be the highest quality reasonably available and which, with appropriate treatment and adequate safeguards, will meet the drinking water standards in this chapter.

**History:** Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.72 Laboratories.** For the purpose of compliance with this chapter, samples shall be analyzed at the state laboratory of hygiene, at a laboratory facility acceptable to the U.S. environmental protection

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agency, or, for bacteriological analysis, at a laboratory facility approved by the department of health and social services.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.73 Monitoring of consecutive public water systems.** When a public water system supplies water to one or more other public water systems, the department may modify the monitoring requirements imposed by this chapter to the extent that the interconnection of the systems justifies treating them as a single system for monitoring purposes. Any modified monitoring shall be conducted pursuant to a schedule specified by the department and concurred in by the administrator of the U.S. environmental protection agency.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.74 Sampling and analytical requirements for other chemicals.** (1) If the department determines that the public health, safety or welfare requires testing for chemical or physical constituents in water which are not contained in this chapter the department may order such testing as it deems necessary.

(a) The department shall provide public notice and an opportunity for public hearing within 90 days after any order under this subsection.

(b) Hearings under this subsection shall be class 1 hearings and shall be held in accordance with chapter 227, Stats.

(2) Testing for other chemical constituents shall be performed at water systems as necessary for control of treatment processes.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

#### **Part IV - Reporting, Public Notification and Recordkeeping**

**NR 109.80 Reporting requirements.** (1) Except where a shorter reporting period is specified in this chapter, the supplier of water shall report to the department within 40 days following a test, measurement or analysis required to be made by this chapter, the results of that test, measurement or analysis.

(2) The supplier of water shall report to the department within 48 hours the failure to comply with any maximum contaminant level or monitoring requirement set forth in this chapter.

(3) The supplier of water is not required to report analytical results to the department in cases where the state laboratory of hygiene performs the analysis and reports the results to the department or where a laboratory facility approved by the department of health and social services performs a bacteriological analyses and reports the results to the department within the time required by NR 109.31.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.81 Public notification.** (1) (a) The supplier of water of a community water system shall notify persons served by the system if the water supply system:

1. Fails to comply with an applicable maximum contaminant level established in sections NR 109.11, 109.20, 109.30(1) or (2), 109.40, 109.50, or 109.51; or

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2. Is granted a variance or an exemption from an applicable maximum contaminant level; or

3. Fails to comply with the requirements of any schedule prescribed pursuant to a variance or exemption.

(b) In all cases notice under this subsection shall be by inclusion of a notice in the first set of water bills of the system issued after the failure or grant and in any event by written notice within 3 months. In the case of a failure to comply with a maximum contaminant level such notice shall be repeated at least once every 3 months so long as the system's failure continues or the variance or exemption remains in effect. If the system issues water bills less frequently than quarterly, or does not issue water bills, the notice shall be made by or supplemented by another form of direct mail.

(2) If a non-community water system fails to comply with an applicable maximum contaminant level established in Part I of this chapter, is granted a variance or an exemption from an applicable maximum contaminant level, or fails to comply with the requirement of any schedule prescribed pursuant to a variance or exemption the supplier of water shall give notice of such failure or grant to the persons served by the system. Such notice shall be by conspicuous posting in a location where it can be seen by consumers and shall insure that the public using the system is adequately informed of the failure or grant.

(3) Notices given pursuant to this section shall be written in a manner reasonably designed to fully inform the users of the system. The notice shall be conspicuous and shall not use unduly technical language, unduly small print or other methods which would frustrate the purpose of the notice. The notice shall disclose all material facts regarding the subject including the nature of the problem and, when appropriate a clear statement that a primary drinking water regulation has been violated and any preventive measures that should be taken by the public. Where appropriate, or where designated by the department, bilingual notice shall be given. Notices may include a balanced explanation of the significance or seriousness to the public health, a fair explanation of steps taken by the system to correct any problem and the results of any additional sampling.

(4) In the case of a failure to comply with a maximum contaminant level which is not corrected promptly after discovery, the supplier of water for a community water system shall provide public notification in addition to that required under subsection (1).

(a) Such notification shall be given as immediately after discovery of the failure to comply as practicable unless the department determines that the failure to comply with a maximum contaminant level does not create an imminent hazard to public health. In such case, the additional notification required under this subsection may be given at any time within the time period prescribed for the notice under subsection (1) (b) of this section.

(b) The notification shall be by appropriate means as may be required by the department and may include newspaper advertisement, news release to radio and television stations, and door-to-door contact.

**NR 109.82 Record maintenance.** Any owner or operator of a public water system subject to the provisions of this part shall retain on the

premises or at a convenient location near the premises the following records:

(1) Records of bacteriological analyses made pursuant to this part shall be kept for not less than 5 years. Records of chemical analyses made pursuant to this part shall be kept for not less than 10 years. Actual laboratory reports may be kept, or data may be transferred to tabular summaries, provided that the following information is included:

(a) The date, place, and time of sampling, and the name of the person who collected the sample;

(b) Identification of the sample as to whether it was a routine distribution system sample, check sample, raw or process water sample or other special purpose sample;

(c) Date of analysis;

(d) Laboratory and person responsible for performing analysis;

(e) The analytical technique/method used; and

(f) The results of the analysis.

(2) Records of action taken by the supplier of water to correct violations of this chapter shall be kept for a period not less than 3 years after the last action taken with respect to the particular violation involved.

(3) Copies of any written reports, summaries or communications relating to sanitary surveys of the system conducted by the supplier of water, by a private consultant, or by any local, state or federal agency, shall be kept for a period not less than 10 years after completion of the sanitary survey involved.

(4) Records concerning a variance or exemption granted to the system shall be kept for a period ending not less than 5 years following the expiration of such variance or exemption.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

#### Part V - Variances and Exemptions

(Note: A supplier of water may apply for a "variance" when a maximum contaminant level cannot be met despite application of the best technology available at a reasonable cost. A supplier of water may apply for an "exemption" when a maximum contaminant level temporarily cannot be met until new facilities are constructed.)

**NR 109.90 Requirements for a variance.** (1) The department may grant one or more variances to any public water system from any requirement respecting a maximum contaminant level established in this chapter upon a finding that:

(a) Because of characteristics of the raw water sources which are reasonably available to the system the system cannot meet the requirements respecting a maximum contaminant level despite application of the best technology, treatment techniques, or other means, which the department finds are generally available (taking costs into consideration); and

(b) The granting of a variance will not result in an unreasonable risk to the health of persons served by the system.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

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**NR 109.91 Variance request.** A supplier of water may petition for the granting of a variance pursuant to this chapter. Suppliers of water may submit a joint request for variances when they seek similar variances under similar circumstances. Any petition for a variance shall include the following information:

- (1) The nature and duration of variance requested.
- (2) Relevant analytical results of water quality samples collected from the system, including results of relevant tests conducted pursuant to the requirements of the chapter.
- (3) For any request made under NR 109.90 (1):
  - (a) Explanation in full and evidence of the best available treatment technology and techniques.
  - (b) Economic and legal factors relevant to ability to comply.
  - (c) Analytical results of raw water quality relevant to the variance request.
    - (d) A proposed compliance schedule, including the date each step toward compliance will be achieved. Such schedule shall include as a minimum the following dates:
      1. Date by which arrangement for alternative raw water source or improvement of existing raw water source will be completed.
      2. Date of initiation of the connection of the alternative raw water source or improvement of existing raw water source.
      3. Date by which final compliance is to be achieved.
    - (e) A plan for the provision of safe drinking water in the case of an excessive rise in the contaminant level for which the variance is requested.
    - (f) A plan for interim control measures during the effective period of variance.
- (4) A statement that the system will perform monitoring and other reasonable requirements prescribed by the department as a condition to the variance.
- (5) Other information, if any, believed to be pertinent by the applicant or required by the department.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.92 Consideration of a variance request.** (1) The department shall provide a class 1 public notice under chapter 985, Stats, within 90 days of the receipt of a variance petition and an opportunity for hearing on any variance petition submitted pursuant to NR 109.91. Hearings under this section shall be class 1 hearings and shall be held in accordance with chapter 227, Stats.

(2) In consideration of whether the public water system is unable to comply with a contaminant level required by this chapter because of the nature of the raw water source, the department shall consider such factors as the following:

(a) The availability and effectiveness of treatment methods for the contaminant for which the variance is requested.

(b) Cost and other economic considerations such as implementing treatment, improving the quality of the source water or using an alternate source.

(3) If the department is not in opposition to a variance petition, the variance shall become effective 30 days after notice and opportunity for hearing is given pursuant to subsection (1) if no timely request for hearing is submitted.

(4) If the department is in opposition to a variance petition, the variance shall be deemed denied 30 days after notice and opportunity for hearing is given pursuant to subsection (1) if no timely request for hearing is submitted.

(5) If the department decides to deny the petition for a variance it shall notify the applicant in writing of the reasons for such denial.

(6) Any final determination of the department shall be subject to review as provided in chapter 227, Stats.

**History:** Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.93 Compliance schedules.** (1) For any variance granted pursuant to NR 109.92, the department shall establish, either at the time of granting a variance or within one year after the granting of a variance, a schedule for:

(a) Compliance (including increments of progress) by the public water system with each maximum contaminant level requirement covered by the variance; and,

(b) Implementation by the public water system of such control measures as the department may require for each contaminant covered by the variance.

(2) The schedule for compliance shall specify dates by which steps towards compliance are to be taken, including at the minimum, where applicable:

(a) Date by which arrangements for an alternative raw water source or improvement of existing raw water source will be completed.

(b) Date of initiation of the connection for the alternative raw water source or improvement of the existing raw water source.

(c) Date by which final compliance is to be achieved.

(3) The schedule may, if the public water system has no access to an alternative raw water source, and can effect or anticipate no adequate improvement of the existing raw water source, specify an indefinite time period for compliance until a new and effective treatment technology is developed at which time a new compliance schedule shall be prescribed by the department.

(4) The proposed schedule for implementation of interim control measures during the period of variance shall specify interim treatment techniques, methods and equipment, and dates by which steps toward meeting the interim control measures are to be met.

(5) If a schedule is established at any time other than the initial granting of a variance an opportunity for a hearing shall be given in compliance with NR 109.92.

(6) The department shall retain jurisdiction in all cases and may, upon its own motion or upon the motion of the supplier of water, modify a compliance schedule, after opportunity for hearing in compliance with NR 109.92, if changed circumstances warrant such a modification.

(7) If a public water system does not comply with a schedule established pursuant to this section the department may, after an opportunity for hearing pursuant to NR 109.92, terminate the variance.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.94 Requirements for an exemption.** (1) The department may grant an exemption to any public water system from any requirement respecting a maximum contaminant level upon a finding that:

(a) Due to compelling factors (which may include economic factors), the public water system is unable to comply with such contaminant level or treatment technique requirement; and

(b) The public water system was in operation on the effective date of such contaminant level or treatment technique requirement; and

(c) The granting of the exemption will not result in an unreasonable risk to health.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.95 Exemption request.** A supplier of water may petition for the granting of an exemption pursuant to this chapter. Suppliers of water may submit a joint request for exemptions when they seek similar exemptions under similar circumstances. Any petition for an exemption shall include the following information:

(1) The nature and duration of exemption requested.

(2) Relevant analytical results of water quality sampling of the system, including results of relevant tests conducted pursuant to the requirements of this chapter.

(3) Explanation of the compelling factors such as time or economic factors which prevent such system from achieving compliance.

(4) Other information if any, believed by the applicant to be pertinent to the application or such other information as the department may require.

(5) A proposed compliance schedule, including the date when each step toward compliance will be achieved.

History: Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.96 Consideration of an exemption request.** (1) The department shall provide a class 1 public notice under chapter 985, Stats, within 90 days of the receipt of a variance petition and an opportunity for hearing on any exemption petition submitted pursuant to NR 109.51. Hearings under this section shall be class 1 hearings and shall be held in accordance with chapter 227, Stats.

(2) In consideration of whether the public water system is unable to comply due to compelling factors, the department shall consider factors such as the following, including:

(a) Construction, installation, or modification of treatment equipment or systems.

(b) The time needed to put into operation a new treatment facility to replace an existing system which is not in compliance.

(c) Economic feasibility of compliance.

(3) If the department is not in opposition to an exemption petition, the exemption shall become effective 30 days after notice and opportunity for hearing is given pursuant to subsection (1) if no timely request for hearing is submitted. If the department is in opposition to an exemption petition, the exemption shall be deemed denied 30 days after notice and an opportunity for hearing is given pursuant to subsection (1) if no timely request for hearing is submitted.

(4) If the department decides to deny the petition for an exemption it shall notify the applicant in writing of the reasons for such denial.

(5) Any final determination of the department shall be subject to review as provided in chapter 227, Stats.

*History:* Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.97 Compliance schedules.** (1) For any exemption granted pursuant to NR 109.52, the department shall establish, either at the time of granting an exemption or within one year after the granting of an exemption, a schedule for:

(a) Compliance (including increments of progress) by the public water system with each maximum contaminant level requirement and treatment technique requirement covered by the exemption; and

(2) (a) Implementation by the public water system of such control measures as the department may require for each contaminant covered by the exemption.

(b) If a schedule is established at any time other than the initial granting of an exemption an opportunity for hearing shall be given in compliance with NR 109.96.

(c) The department shall retain jurisdiction in all cases and may, upon its own motion or upon the motion of the supplier of water, modify a compliance schedule, after opportunity for hearing in compliance with NR 109.96, if changed circumstances warrant such a modification.

(d) If a public water system does not comply with a schedule established pursuant to this section the department may, after an opportunity for hearing pursuant to NR 109.52, terminate the exemption.

*History:* Cr. Register, February, 1978, No. 266, eff. 3-1-78.

**NR 109.98 Final exemption schedule.** (1) Any exemption schedule established pursuant to this chapter shall require compliance by the public water system with each maximum contaminant level prescribed by:

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(a) The interim national primary drinking water regulations pursuant to 40 Code of Federal Regulations 141 by no later than January 1, 1981; and

(b) Any maximum contaminant levels established by this chapter but not contained in the interim national primary drinking water regulations pursuant to 40 Code of Federal Regulations 141, by no later than 7 years after the effective date of such maximum contaminant levels.

(2) If the public water system has entered into an enforceable agreement to become a part of a regional public water system, as determined by the department, such schedule shall require compliance by the public water system with each maximum contaminant level prescribed by:

(a) The interim national drinking water regulations pursuant to 40 Code of Federal Regulations 141 by no later than January 1, 1983; and

(b) Any maximum contaminant levels established by this chapter but not contained in the interim national primary drinking water regulations pursuant to 40 Code of Federal Regulations 141, by no later than 9 years after the effective date of such maximum contaminant levels.

**History:** Cr. Register, February, 1978, No. 266, eff. 3-1-78.